

ANDRIANOV, K.A., Akademik; BELAZHNI, N.V.; VOLODIN, L.M.; SEMENYEVSKIY, L.A.

Synthesis and spectra of trimethylsilyl-phenyl, chloro-, 1-oxa-
2,6-disilacyclohexanes. Dokl. AN SSSR 160 no. 4:1307-1310, 1965.
(CIRA 18:2)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

L 37030-65 EPA(s)-2/EWT(m)/EPF(c)/EWP(v)/EPR/EPA(w)-2/EWP(j)/T
Pc-4/Pab-10/Pr-4/PS-4/Pt-10 WW/RM
ACCESSION NR: AP5009222

S/0020/65/161/001/0099/0102

AUTHOR: Andrianov, K. A. (Academician); Yemel'yanov, V. N.;
Sukhareva, L. A.; Smirnova, Yu. P.; Zubov, P. I.

TITLE: Synthesis and physical and mechanical properties of films
from polymers with regular structure

SOURCE: AN SSSR. Doklady, v. 161, no. 1, 1965, 99-102

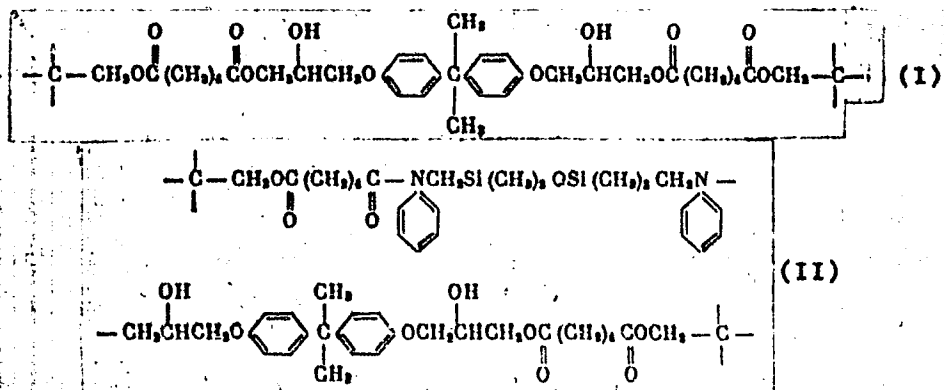
TOPIC TAGS: polymer, regular structure, regular structure polymer,
epoxy polymer, polyesterepoxy polymer, silicon containing poly-
esteroamidoepoxy polymer

ABSTRACT: The purpose of the work was to synthesize and study poly-
esteroepoxy and silicon-containing polyesteramidoepoxy polymers of
a regular cyclonol structure, which could be used for coatings,
electric insulation, or as binders for glass-reinforced plastics.
Polyesterepoxy polymers were obtained by reacting pentaerythritol
tetraadipate with glycidol-hydroquinone or with glycidol-diphenylol-
propane ("Bisphenol A") (See 1 below) diethers. Silicon-containing

Card 1/4

L 37030-65
ACCESSION NR: AP5009222

polyesteroamidoepoxy polymers of regular structure were prepared in two stages: in the first stage, pentaerythritol tetraadipate was condensed with bis-(phenylaminomethyl)-tetramethyldisiloxane; in the second stage, the resulting polymer which contained phenylamino and carboxyl groups was reacted with a glycidol diether, as in the preparation of I, resulting in polymer (II). Reactions were carried out in



Card 2/4

L 37030-65
ACCESSION NR: AP5009222

2
films on a metal surface. Polymer (III) with an irregular structure was obtained by simultaneous condensation of pentaerythritol, adipic acid and glycidol-Bisphenol A diether. Mechanical and electrical properties of I, II, and III were studied to determine the effect of the structure on these properties. The dependence of inner stresses, adhesion, and elastic modulus on the thickness of the film was found. The above mechanical properties and the tensile strength of I, II, and III and of a commercially used epoxy resin (ED-5) cured with polyethylenepolyamine, were compared. It was found that the tensile strength of polymers with the regular structure is 20—50% higher than that of the irregular polymer, but 1.5—2 times lower than that of the commercially used epoxy resins. However, inner stresses in the coatings from the new film-forming regular polymers are considerably lower. The best physical and mechanical properties are displayed by II films, which have the maximum curing rate, minimum inner stresses and a high tensile strength and adhesion. Films from polymers with the regular structure are moisture proof. Thermal stability of I at 200C is :

Card 3/4

L 37030-65

ACCESSION NR: AP5009222

Test duration, hr	24	100	500	900	1500
Weight loss, %	0.76	0.95	3.60	4.20	6.32

Electric properties were determined for I and for a glass-reinforced plastic, in which I was used as a binder. Orig. art. has: 4 formulas, 3 graphs, and 2 tables. [BN]

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Organoelemental Compounds, Academy of Sciences, SSSR)

SUBMITTED: 29Sep64

ENCL: 00

SUB CODE: OC, MT

NO REF SOV: 002

OTHER: 000

ATD PRESS: 3223

Cord 4/4. *ls*

L 40974-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RM

ACCESSION NR: AP5006418

S/0062/65/000/001/0167/0169 24

AUTHOR: Andrianov, K. A.; Sidorov, V. I.; Khananashvili, L. M.; Kuznetsova, N. V.

TITLE: Reaction of the addition of methyldichloro- and dimethyl-chlorosilanes to vinyl-derivatives of organocyclosiloxanes

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 1, 1965, 167-169

TOPIC TAGS: silane, organosilicon compound, methyldichlorosilane, dimethylchlorosilane

ABSTRACT: The reactions of the addition of methylchloro- and dimethylchlorosilanes to vinylheptamethyl- and divinylhexamethylcyclotetrasiloxanes in the presence of an H_2PtCl_6 catalyst occur relatively easily and with good yields of the desired products. The $Si(CH_2)Cl_2$ and $Si(CH_3)_2Cl$ groups are joined to the β -carbon atom of the vinyl group of cyclosiloxane. Five new compounds were synthesized. "The authors express their deep gratitude to M. G. Zaytseva for taking the infrared absorption spectra." Orig. art. has: 2 tables, 1 equation.

Card 1/2

L 40974-65

ACCESSION NR: AP5006418

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M. V.
Lomonosova (Moscow Institute of Fine Chemical Technology)

SUBMITTED: 22May64

ENCL: 00

SUB CODE: GC, OC

NO REF SOV: 000

OTHER: 000

lle
Card 2/2

L 40978-65 EWT(m)/EPF(c)/EPR/EWP(j) Pc-4/Pr-4/ps-4 RPL WH/RM

ACCESSION NR: AP5006422

S/0062/65/000/001/0187/0189

AUTHOR: Andrianov, K. A.; Shapatin, A. S.; Ponomarev, V. V.

TITLE: Formation reactions and properties of aluminum salts of ethoxymethylphosphinic and diethylphosphoric acids

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 1, 1965, 187-189

TOPIC TAGS: aluminum, aluminum compound, phosphonic acid, phosphoric acid, polymer

ABSTRACT: Aluminum diisopropoxy(ethoxymethylphosphinate), aluminum isopropoxy-bis-(ethoxymethylphosphinate), and aluminum tris-(ethoxymethylphosphinate) were synthesized. The interaction of aluminum isopropylate with triethylphosphate was studied in molar ratios of 1:1, 1:2, and 1:3. The reaction of aluminum isopropylate with ethyl ethers of methylphosphinic and phosphoric acids yields aluminum tris-(ethoxymethylphosphinate) and aluminum tris-(diethylphosphate). Aluminum isopropoxy-bis-(ethoxymethylphosphinate), and aluminum tris-(ethoxymethylphosphinate) have a polymeric structure. Orig. art. has: 1 figure, 4 equations.

Cord 1/2

L 40978-65

ACCESSION NR: AP5006422

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V.
Lomonosova (Moscow Institute of Fine Chemical Technology)

SUBMITTED: 03Jun64

ENCL: 00

SUB CODE: GC, OC

NO REF SOV: 002

OTHER: 000

llc
Card 2/2

L 41575-65 ENT(m)/EPF(g)/ETP(j). PC-4/Pr-4. RM

ACCESSION NR: AP5008841

S/0079/65/035/003/0524/0527

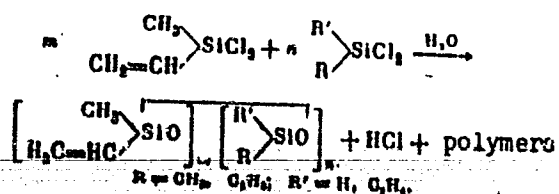
AUTHOR: Andrianov, K. A.; Sidorov, V. I.; Khananashvili, L. M.; Kuznetsova, N. V.

TITLE: Cohydrolysis of methylvinylchlorosilane with various alkylchlorosilanes

SOURCE: Zhurnal obshchey khimii, v. 35, no. 3, 1965, 524-527

TOPIC TAGS: silane, silicon organic compounds, hydrolysis, organic synthesis

ABSTRACT: The cohydrolysis reaction of methylvinylchlorosilane with different alkylchlorosilanes was studied according to the following scheme:



1-methyl-1-vinyl-3,3,5,5-tetraethylcyclotrililoxane and 1,1-diethyl-3,5-dimethyl-

Cord 1/2

L 41575-65

ACCESSION NR: AP5008841

3,5-divinylcyclotrisiloxane were produced by cohydrolysis of methylvinylchlorosilane with diethyldichlorosilane. Cohydrolysis of methylvinylchlorosilane with methylchlorosilane produced 1,3,5,7-tetramethyl-1-vinylcyclotetrasiloxane and 1,3,5,7-tetramethyl-1,5-divinylcyclotetrasiloxane. 1-Methyl-1-vinyl-3,5,7-triethylcyclotetrasiloxane, 1,5-dimethyl-1,5-divinyl-3,7-diethylcyclotetrasiloxane and 1-ethyl-3,5,7-trimethyl-3,5,7-trivinylsiloxane were produced by cohydrolysis of methylvinylchlorosilane with ethyldichlorosilane. Orig. art. has: 1 table.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. N. V. Lomonosova (Moscow Institute of Fine Chemical Technology)

SUBMITTED: 02Jan64

ENCL: 00

SUB CODE: OC

NO REF SOV: 001

OTHER: 000

ml
Card 2/2

I 54445-65 EWT(m)/EPF(c)/EPR/EWP(j)/I Pc-4/Pr-4/Ps-4 WW/RM
ACCESSION NR: AP5012450

UR/0062/65/000/004/0660/0665
546.287

AUTHORS: Fromberg, M. B.; Petrashko, Yu. K.; Vozhova, V. D.; Andrianov, K. A.

TITLE: Double decomposition of alkyl(aryl)trisodium oxysilanes and methylphenyl dichlorosilane

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 4, 1965, 660-665

TOPIC TAGS: silane, IR absorption spectrum, polymerization, polycondensation, sodium compound

ABSTRACT: The double decomposition of trisodium salts of alkyl(aryl) silantriols and methylphenyl dichlorosilane was studied. In order to use the reaction for obtaining trifunctional splitting of oligomers with functional groups at the ends of the branches, the synthesis was carried out with 1 mole of alkyl(aryl) trisodium oxysilane for 3 moles of methylphenyl dichlorosilane. Sodium salts (obtained by treating alkyl(aryl)polysiloxanes with an alcohol solution of caustic soda) were used. The double decomposition reaction was carried out below 40°C with gradual introduction into a solution of methylphenyl dichlorosilane of a suspension of the trisodium salt in toluene. Analysis of the resulting products

Card 1/3

L 54445-65

ACCESSION NR: AP5012450

shows them to contain but an insignificant amount of functional groups. The chlorine content was but 0.1% as against an expected 17.17%, on the assumption of the course the reaction would follow. Only traces of the hydroxyl group were detected after treatment with water. These data indicate that the double decomposition does not follow the expected pattern, but that it is apparently accompanied by hydrolytic processes that lead to the formation of cyclic compounds of complex structure. This view is supported by the presence of crystallization water in alkyl(aryl) silanetriols. For the double decomposition reactions, sodium salts of methyl, ethyl, and phenyl silanetriols were used. These yielded 1,7-dimethyl-3,5,9,11,14,16-hexamethylhexaphenyl bicyclo (5,5,5) octasiloxane; 1,7-diethyl-3,5,9,11,14,16-hexamethylhexaphenyl bicyclo (5,5,5) octasiloxane; and 1,7-diphenyl-3,5,9,11,16-hexamethylhexaphenyl bicyclo (5,5,5) octasiloxane. These compounds are low-viscosity liquids, soluble in benzene, toluene, and carbon tetrachloride, and insoluble in ethyl and methyl alcohols. The composition, structure, and properties of the compounds are tabulated. Infrared spectra of all compounds exhibit an absorption band in the 1080-1090 cm^{-1} region, corresponding to vibration of the Si-O bond in eight-member rings. No characteristic bond for Si-OH was detected. Supplementary experiments on catalytic polymerization and thermal polycondensation demonstrated that the compounds are polymerized by means of 1% NaOH at 80C and that thermal polycondensation, which was

Cord 2/3

L 54445-65

ACCESSION NR: AP5012450

effected at 220-250C during long periods (up to 30 hours), does not produce changes in properties or composition of the synthesized compounds. These data support the view that the compounds have cyclic structure. Orig. art. has: 2 figures, 1 table, and 2 formulas.

ASSOCIATION: Elektrotekhnicheskiy institut im. V. I. Lenina (Electrical Engineering Institute)

SUBMITTED: 17Apr63

ENCL: 00

SUB CODE: OC, GC

NO REF SOV: 003

OTHER: 002

50
Card 3/3

ANDRIANOV, K.A.; LAVYGIN, I.A.; SHVETSOV, Yu.A.

Synthesis and properties of branched 8-hydroxy quinoline titanium
dimethylsiloxane oligomers. Zhur. ob. khim. 35 no.4:689-693 Ap '65.
(MIRA 18:5)

ANDRIANOV, K.A.; SIDOROV, V.I.; KHANANASHVILI, L.M.; KUZNETSOVA, N.V.

Reaction of the cohydrolysis of methylallyldichlorosilane with
methyl- and ethyldichlorosilanes. Zhur. ob. khim. 35 no.4:698-700
Ap '65. (MIRA 18:5)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni
M.V. Lomonosova.

ZHINKIN, D.Ya.; MAL'NOVA, G.N.; POLONSKAYA, A.P.; ANDRIANOV, K.A.

Simultaneous hydrolytic condensation of trimethyl-,
triethylchlorosilanes, and phenyltrichlorosilane. Zhur. ob.
khim. 35 no.5:909-911 My '65. (MIRA 18:6)

ANDRIANOV, K.A.; ZHDANOV, A.A.; KASHUTINA, E.A.

Synthesis and study of the properties of polydimethylsiloxanes
containing carboxyl groups in organic end radicals. Zhur. ob.
khim. 35 no.6:1037-1040 Ja '65. (MIRA 18:6)

ANDRIANOV, K.A.; IZMAYLOV, B.A.

Reaction of higher alkylchlorosilanes with ethyl alcohol. Zhur.
ob. khim. 35 no.6:1041-1044 Je '65. (MIRA 18:6)

L 42147-65 EPF(c)/EWP(j)/EWT(m)/T Pc-4/Pr-4 RM
ACCESSION NR: AP5007659

S/0020/65/160/006/1307/1310

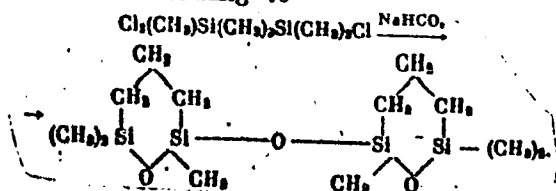
AUTHORS: Andrianov, K. A. (Academician); Delazari, N. V.; Volkova, L. M.;
Chumayevskiy, N. A.

TITLE: Synthesis and spectra of trimethylalkyl-(phenyl, chlor)-1-oxa-2,6-
disilacyclohexanes

SOURCE: AN SSSR. Doklady, v. 160, no. 6, 1965, 1307-1310

TOPIC TAGS: cyclohexane, IR absorption spectrum, spectrophotometer/ VIKS M 3
spectrophotometer, IKS 14 spectrophotometer

ABSTRACT: The authors have produced new trimethylalkyl-(phenyl, chlor)-1-oxa-2,6
disilacyclohexanes, with a yield of 60-80%, during hydrolysis of bis(alkylchlorosilyl)
propanes by an aqueous solution of caustic potash. On heating an ether solution of
1-dimethylchlorosilyl-3-methyldichlorosilyl propane with bicarbonate of soda, a
bicyclic compound was obtained according to

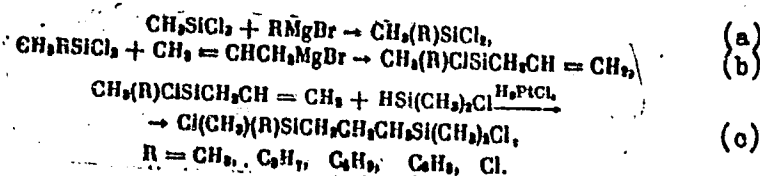


Card 1/2

L 42147-65

ACCESSION NR: AP5007659

Bis-(alkylchlorosilyl) propanes were obtained according to reactions (a), (b), and (c)



The properties of the newly synthesized substances are given in a table. The IR spectra were obtained and compared with other compounds. These spectra were studied on two spectrophotometers: a VIKS M-3 with an NaCl prism (700-1500 cm^{-1}) and an IKS-14 with a KBr prism (400-700 cm^{-1}). The spectra are illustrated in Fig. 1 on the Enclosure. Orig. art. has: 1 table and 1 figure.

ASSOCIATION: Institut elementoorganicheskikh soedineniy, Akademii nauk SSSR
(Institute of Hetero-Organic Compounds, Academy of Sciences SSSR)

SUBMITTED: 26Oct64

ENCL: 01

SUB CODE: 00, OP

NO REF SOV: 001

OTHER: 007

Cord 2/3

L 49286-55 EPF(c)/EWP(j)/EWT(m)/T/EWP(b)/EWP(t) Pc-4/Pr-4 IJP(c) JD/RM
 ACCESSION NR: AP5013754 UR/0020/65/162/002/0335/0338

AUTHOR: Zhdanov, A. A.; Andrianov, K. A. (Academician); Odinets, V. A.; Karpova, I. V.

TITLE: Synthesis and polymerization of cyclotetrasiloxanes which contain heterocyclic radicals with a silicon atom

SOURCE: AN SSSR. Doklady, v. 162, no. 2, 1965, 335-338

TOPIC TAGS: organosilicon compound, cyclosiloxane, silahexyl substituted cyclotetrasiloxane, organosilicon compound polymerization

ABSTRACT: An attempt was made to synthesize and polymerize cyclosiloxanes fringed with heterocyclic groups in which silicon atoms belonged simultaneously to the heterocyclic groups and to siloxane closed chains. No literature data were available on the compounds in question. To synthesize silacyclohexyl derivatives of cyclosiloxanes, 1,1-dichloro-3,4-benzo-1-silacyclohexane was hydrolyzed either alone or with dimethyldichlorosilane in molar ratios from 3:1 to 1:3. Mono-, di-, tri-, and tetra-(3,4-benzo-1-silahexyl)-cyclotetrasiloxanes were obtained. The properties of these compounds are tabulated in the original. The compounds obtained were polymerized in the presence of an alkaline catalyst, either 0.3% KOH or 0.3% tetra-

Card 1/2

D 49286-65

ACCESSION NR: AP5013754

methyammonium hydroxide, at various temperatures. Concentrated H_2SO_4 was ineffective as a catalyst. Formation of an insoluble product was observed in all cases of polymerization and was ascribed to the cross-linking effect of the alkaline agent, which either splits off organic radicals or opens the silahexyl rings. It was found that tetramethylammonium hydroxide is more effective as a polymerization catalyst than KOH; the reactivity of the cyclosiloxanes studied decreases with an increase in the number of heterocyclic radicals in the molecule. Orig. art. has: 2 formulas, 1 table and 3 graphs. [BN]

ASSOCIATION: Institut elementoorganicheskikh sovedineniy Akademii nauk SSSR
(Institute of Heteroorganic Compounds, Academy of Sciences, SSSR)

SUBMITTED: 11Jan65

ENCL: 00

SUB CODE: OC, Gc

NO REF SOV: 004

OTHER: 003

ATD PRESS: 4004

B5B.
Card 2/2

L 54987-65 EWT(m)/EPF(c)/EPR/EWP(j)/T/ETC(m) Pc-l/Pr-l/Ps-l WN/RM
 ACCESSION NR: AP5011919 UR/0363/65/001/003/0294/0300
 541.6:542.9

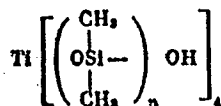
AUTHOR: Andrianov, K. A.; Kurasheva, N. A.; Manucharova, I. F.; Berliner, Ye. MB

TITLE: Polymers with inorganic molecule chains, polytitanodimethylsiloxanes

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 3, 1965, 294-300

TOPIC TAGS: polymer, inorganic polymer, titanium organic compound, dimethylsiloxane rubber, polymethylsiloxane

ABSTRACT: Kinetics of cross-linking of polytitanodimethylsiloxanes, (product having a reticular structure), was studied using oligomers of general formula



as a model compound (where n is 2, 3, 23, 34, 52, and 128). The oligomer condensation reactions and cross-linking process took place simultaneously. The yield of the reticular product (gel) is directly proportional to the reaction duration. The

Card 1/2

L 54987-65

ACCESSION NR: AP5011919

rate of the cross-linking reaction is inversely proportional to the magnitude of n .
In general, the polytitanodimethylsiloxanes are slightly more thermally stable than
the corresponding polymethylsiloxanes. Orig. art. has: 3 tables and 8 figures. 5

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR
(Institute of Organoelemental Compounds, Academy of Sciences, SSSR); Institut ob-
shchey i neorganicheskoy khimii Akademii nauk SSSR (Institute of General and In-
organic Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 04Dec64

ENCL: 00

SUB CODE: OC, GC

NO REF SOV: 005

OTHER: 000

Card 2/2

L 54699-65 EWT(m)/EPT(c)/EWP(j) Po-4/Pr-4 RM

ACCESSION NR: AP5011920

UR/0363/65/001/003/0301/0306

546.824:54-126

AUTHOR: Andrianov, K. A.; Kuznetsova, I. K.; Smirnov, Yu. N.

TITLE: Reactions of titanium tetra-normal butoxide with phosphonic acids

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 3, 1965, 301-306

TOPIC TAGS: titanium butoxide, titanium tetrabutoxide, phosphata, phosphonic acid, oligomer, polymer

ABSTRACT: Oligomers (with a molecular weight of 1500 to 2000 and Ti-O-P bondings) and titanium tetra-monoalkylphosphates were synthesized from titanium tetra-normal butoxide and monomethylphosphonic- and α -phenylvinylphosphonic acids. The titanium tetra-monomethylphosphate treated with an excess of water undergoes partial hydrolysis to methylphosphonic acid and a product of condensation reaction. Two moles of methylphosphonic acid result from each mole of starting titanium tetra-mono-methylphosphate. Also two moles α -phenylvinylphosphonic acid result from hydrolysis of titanium tetra- α -phenylvinylphosphate. The product of condensation reaction is water insoluble and its chemical formula is $C_2H_8O_7P_2Ti$. Reaction of titanium

Card 1/2

L 54699-65

ACCESSION NR: AP5011920

tetra- α -phenylvinylphosphate with an excess of triethylbutoxysilanes and titanium tetra-normal butoxide leads to a substitution of hydrogen in the phosphonyl group by triethylsiloxy- and titanium tri-normalbutoxy groups. The titanium tetra-mono-methylphosphate reacts with triethylbutoxysilane with formation of butyl alcohol and di-triethylsiloxy-ester of methylphosphonic acid, accompanied by formation of an insoluble product of the formula: $C_2H_6O_6P_2Ti$. In general, two alkylphosphonyl groups split off readily from the titanium tetra-alkylphosphates. It is concluded that only two phosphonyl groups can coordinate with a titanium atom. Orig. art. has: 1 figure and 4 formulas.

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR (Institute of Organoelemental Compounds, Academy of Sciences, SSSR)

SUBMITTED: 24Nov64

ENCL: 00

SUB CODE: 00, 00

NO REF SOV: 003

OTHER: 000

Card 2/2 m/c

L 57079-65 EWT(m)/EPF(c)/EMP(j)/T/EMP(t)/EMP(b) Pc-L/Pr-L IJP(c) JD/HM
 ACCESSION NR: AP5010791 UR/0079/6/035/004/0689/0693
 547.258.2

AUTHORS: Andrianov, K. A.; Lavysin, I. A.; Shvetsov, Yu. A.

TITLE: Synthesis and properties of branching 8-hydroxyquinoline titanium
 dimethylsiloxanes of oligomers

SOURCE: Zhurnal obshchey khimii, v. 35, no. 4, 1965, 689-691

TOPIC TAGS: polymer, organic synthesis, titanium, organo metallic compound,
 glass transition temperature, IR spectroscopy, viscosity

ABSTRACT: The synthesis and some properties of the liquid tert(polydimethyl-
 siloxane trimethylsiloxy)-8-hydroxyquinoline titanium oligomers (I) with tri-
 methylsiloxane groups at the branching ends are described. The synthesis of (I)
 was effected by condensation of 8-hydroxyquinoline tributoxy titanium with alpha-
 hydroxy-omega-trimethylsiloxydimethylsiloxane. This yielded oligomers in which
 the degree of polymerization (n) of the trimethylsiloxane branching is 10, 15,
 30, 98, and 136. The glass point of these oligomers is in the interval -102 to
 -118C, and the refractive index declines systematically with increase in degree of
 polymerization. The oligomer structure was studied by IR spectroscopy. A

Cord 1/2

L 57079-65

ACCESSION NR: AP5010791

consistent logarithmic decrease in viscosity with increase in temperature indicates that the oligomers are normal liquids within the investigated temperature range. The activation energy in the interval 20-130C ranges from 4.59 kcal/mole for $n=15$ to 3.62 for $n=136$. The value drops rapidly at first, then levels off at higher values of n , meaning that the 8-hydroquinoline titanium oxane group determines in great measure the intermolecular reaction. The relation of activation energy to degree of branching is normal for linear polydimethylsiloxanes containing polar groups at the ends of the chains. A tabulation is given for the compositions and properties of the synthesized polymers. Orig. art. has: 5 figures and 3 tables.

ASSOCIATION: none

SUBMITTED: 05Feb64

NO REF SOV: 009

ENCL: 00

OTHER: 006

SUB CODE: GC, OC

Card

182
2/2

L 52266-65

ACCESSION NR: AP5010831

ACCESSION NR: AP5010831

In the case of tetraethoxysilane a corresponding tetrahydric ether alcohol, $\text{Si}[\text{OSi}(\text{CH}_3)_2\text{CH}_2\text{OCH}_2\text{CH}_2\text{OH}]_4$, was obtained. It is postulated that in the intermediate stage of hydrolysis of 1,1-dimethoxysil-2,5-dioxycyclohexane a corresponding silane is formed which, in turn, enters into a condensation reaction with ethoxysilane with resulting formation of ethyl alcohol and a Si-O-Si bonding. The possibility of the intermediate stage of hydrolysis of tetraethoxysilane to form 1,1-dimethoxysil-2,5-dioxycyclohexane is excluded since no 1,1-dimethoxysil-2,5-dioxycyclohexane was obtained in the hydrolysis of tetraethoxysilane.

ASSOCIATION: none

SUBMITTED: 11/16/04

NO REF SOV: 002

ENCL: 00

OTHER: 005

SUB CODE: OC, GC

Card 2/2 7/12

L 56662-65 EWT(m)/EPF(c)/EPR/EMP(j)/T Pc-4/Pr-4/Ps-4 WW/RM
 UR/0286/65/000/011/0078/0078
 678.84
 31
 6

AUTHOR: Andrianov, K. A.; Pakhomov, V. I.; Lapteva, N. Ye.

TITLE: A method for producing organosilicon resins. Class 39, No. 171565 15

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 11, 1965, 78

TOPIC TAGS: organosilicon resin, hydrolysis, catalysis

ABSTRACT: This Author's Certificate introduces a method for producing organosilicon resins by cohydrolysis of methyltrimethoxysilane and phenyltrimethoxysilane and then hardening them in the presence of a hardening catalyst. Resins with high thermal stability and improved mechanical characteristics are produced by carrying out the hydrolysis jointly with oxyphenylpropylsilane and using aldehydes or aldehyde derivatives as the hardening catalyst.

ASSOCIATION: Nauchno-issledovatel'skiy institut plasticheskikh mass (Scientific Research Institute of Plastic)

Card 1/2

L 5' 362-65
ACCESSION NR: AP5017840

SUBMITTED: 17Mar64

NO REF SOV: 000

ENCL: 00

SUB CODE: HT, 00

OTHER: 000

Card

282
2/2

L 56668-65 LWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RM
ACCESSION NR: AP5017848

UR/0286/65/000/011/0080/0080
678.84+678.643

AUTHOR: Prutkov, L. M.; Andrianov, K. A.; Polikanin, N. A.; Asnovich, E. Z/ 25 3

TITLE: A method for producing molding compounds. Class 39, No. 171577 15

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 11, 1965, 80

TOPIC TAGS: molding material, plastic, graft copolymer

ABSTRACT: This Author's Certificate introduces a method for producing molding compounds based on a filler and binders--synthetic resins. The useful properties of the molding compounds are improved by using binders consisting of graft copolymers of epoxy resin and a polyorganosiloxane which contains a secondary amino group in the side chain. 15 16

ASSOCIATION: none

SUBMITTED: 24Mar62

ENCL: 00

SUB CODE: MT,00

NO REF SOV: 000

OTHER: 000

Card 1/1

ANDRIANOV, K.A.; KHANANASHVILI, L.M.; TELESHEVA, N.A.; TIKHONOV, V.S.

Reactions of dimethylcyclosilazanes with n-butyl alcohol and
n-butyl borate. Izv. AN SSSR. Ser. khim. no. 3:446-449 '65.
(MIRA 18:5)

1. Institut tonkoy khimicheskoy tekhnologii im. M.V.Lomonosova.

ANDRIANOV, K.A.; TSOMAYA, N.I.; KHANANASHVILI, L.M.

Synthesis of glycerol derivatives of oligomers with functional groups at the ends of molecules. Izv. AN SSSR. Ser. khim. no.6: 1022-1025 '65. (MIRA 18:6)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova.

L 60852-65 EPA(s)-2/EWT(m)/EPF(c)/EWP(j)/T WW/DJ/RM

ACCESSION NR: AP5019675

UR/0064/65/000/008/0570/0572
662.987.9:547.1'128

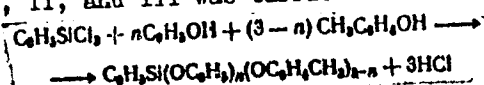
AUTHORS: ^{56,44}Andrianov, K. A.; ^{55,44}Ovchinnikov, V. A.; ^{55,44}Khananashvili, L. M. ²³
^B

TITLE: Organosilicon coolants

SOURCE: Khimicheskaya promyshlennost', no. 8, 1965, 570-572

TOPIC TAGS: organosilicon compound, coolant, silane, siloxane/AMT 300 oil, mobiltern 600

ABSTRACT: The purpose of the investigation was the synthesis of ⁴⁴liquid organosilicon coolants of high thermal stability. The following compounds were synthesized: phenylphenoxy-m-cresoxysilane (I), phenylphenoxydiphenoxysilane (II), phenoxydiphenoxysilane (III), and di-(phenylphenoxydiphenoxy) disiloxane (IV). The synthesis of I, II, and III was carried out at 220-240C according to



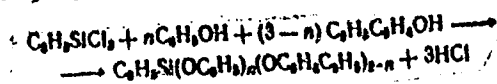
where

$n \approx 1, 8,$

Card 1/5

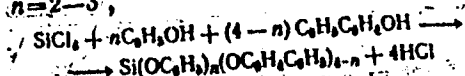
L 60852-65

ACCESSION NR: AP5019675



where

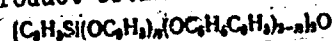
$$n=2-3,$$



where

$$n \approx 3.3,$$

respectively. Compound IV was obtained by treatment of phenyltrichlorosilane with a mixture of phenol, o-hydroxybiphenyl, and water in the ratio of 1 : 1.65 : 0.45 : 0.5. The formula of the product obtained was



where

$$n \approx 1.6,$$

The yields of I, II, III, and IV were 96.5, 94.5, 85, and 81%, respectively. The refractive index, density, heat capacity, and viscosity of the synthesized compounds were determined and are presented in tabular form. The temperature dependence of viscosity and vapor pressure of the aryloxysilanes synthesized are shown graphically (see Figs. 1 and 2 of the Enclosure). It is concluded that the aryloxysilanes synthesized have a greater thermal stability than either of the industrial coolants, the aromatized oil AMT-300 or mobiltern-600. Orig. art. has: 3 tables and 2 figures.

[04]

Card 2/5

L 60852-65

ACCESSION NR: AP5019675

ASSOCIATION: none

SUBMITTED: 00

NO REF SOV: 000

ENCL: 02

OTHER: 005

SUB CODE: 0C

ATD PRESS: 4063

Card 3/5

L 60852-65

ACCESSION NR: AP5019675

ENCLOSURE: 01

0

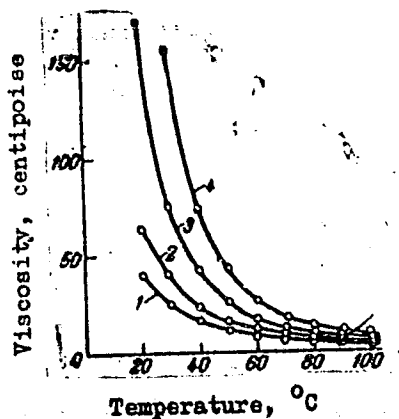


Fig. 1. Temperature dependence of the viscosity of aryloxysilanes

1 - Phenoxydiphenoxysilane; 2 - phenylphenoxy-m-cresoxysilane;
3 - phenylphenoxydiphenoxysilane; 4 - di(phenylphenoxydiphenoxy)-
disiloxane.

Card 4/5

L 60852-65

ACCESSION NR: AP5019675

ENCLOSURE: 02

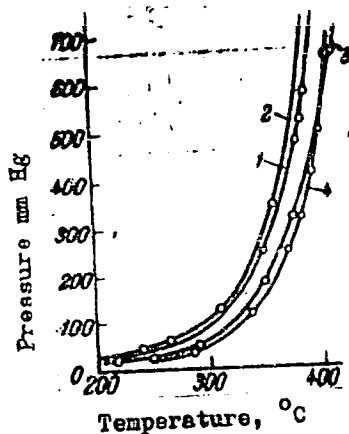


Fig. 2. Saturation vapor pressure of aryloxysilanes as a function of temperature

1 - Phenoxydiphenoxysilane; 2 - phenylphenoxy-m-cresoxy-silane; 3 - phenylphenoxydiphenoxy silane; 4 - di(phenylphenoxydiphenoxy)-disiloxane.

Card

5/5

FROMBERG, M.B.; PETRASHKO, Yu.K.; VOZHOVA, V.D.; ANDRIANOV, K.A.

Exchange decomposition reaction between alkyl (aryl) trisodium-
hydroxysilanes and methylphenyldichlorosilane. Izv. AN SSSR. Ser.
khim. no.4:660-665 '65. (MIRA 18:5)

1. Elektrotekhnicheskiy institut im. V.I.Lenina.

L 61186-65 EWT(m)/EPF(c)/EWP(j) Pc-L/Pr-L RPL JAJ/PM
 ACCESSION NR: AP5016407 UR/0079/65/035/006/1037/1040
 546.287: 547.463

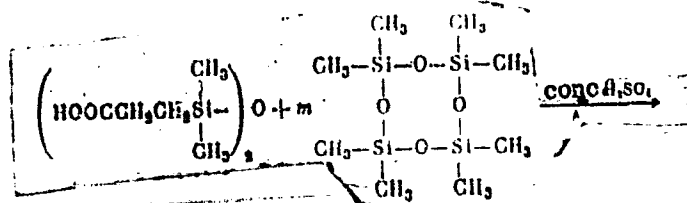
AUTHOR: Andrianov, K.A.; Zhdanov, A.A.; Kashutina, E.A.

TITLE: Synthesis and study of the properties of polydimethylsiloxanes containing carboxyl groups in the terminal organic radicals

SOURCE: Zhurnal obshchey khimii v. 35, no. 6, 1965, 1037-1040

TOPIC TAGS: organosilicon compound, heteroorganic polymer, polysiloxane synthesis, terminal carboxyl group, thermomechanical property, glass temperature

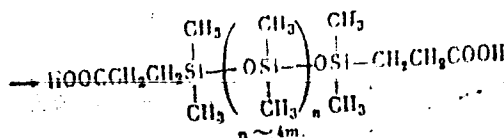
ABSTRACT: In the catalytic polymerization of octamethylcyclotetrasiloxane in the presence of bis (2-carboxyethyl)tetramethyldisiloxane, linear polydimethylsiloxanes with carboxyl groups in the terminal organic radicals are formed:



Card 1/2

L 61186-65

ACCESSION NR: AP5C18407



The average length of the oligomer formed is determined by the molar ratio of the reacting components. The physicochemical characteristics (including viscosity and activation energy of viscous flow) of the synthesized oligomers are tabulated. As the chain length increases, the molecular interaction declines because of a decrease in the concentration of the carboxyl groups per unit volume and the properties of the oligomers increasingly resemble those of polydimethylsiloxanes with terminal trimethylsiloxy groups, since the influence of the terminal carboxyl groups regularly falls off. A study of the thermomechanical properties of the oligomers showed that they all have a glass-transition temperature between -80 and -110°C under a 30 g load. IR spectra of all the oligomers were identical in character. The experimental procedure employed in synthesizing ω -bis (2-carboxyethyl)dimethylsiloxy)polydimethylsiloxane ($n = 10$) is described. Similar compounds with $n = 21, 28, 59, 73$, and 106 were obtained. Orig. art. has: 4 figures, 2 tables and 1 formula.

ASSOCIATION: none

SUBMITTED: 05Feb64

NO REF SOV: 000

ENCL: 00

OTHER: 006

SUB CODE: OC

Card ⁴⁸¹ 2/2

L 65216-65 EWT(m)/EPF(c)/EWP(j)/T RM

ACCESSION NR: AP5011918

UR/0363/65/001/003/0289/0293

546.821:541.6

AUTHOR: Andrianov, K. A.; Kuznetsova, I. K.; Smirnov, Yu. N.

TITLE: Reaction of tetrabutyl titanate with methyl-phosphonic acid esters

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 3, 1965, 289-293

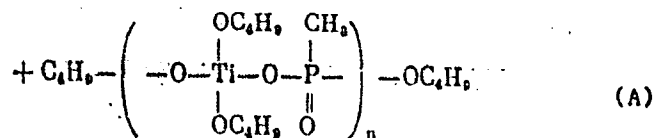
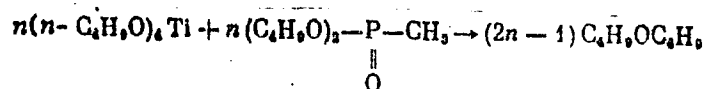
TOPIC TAGS: titanate, organotitanium compound, oligomer, polycondensation

ABSTRACT: Oligomers are prepared with chains made up of alternating atoms of titanium, oxygen and phosphorus by polycondensation of n-tetrabutyl titanate with dialkyl esters of methyl-phosphonic acid. The reaction was carried out at 170-200°C without catalysts at initial component ratios of 1:1, 1:2 and 2:1. Polycondensation of n-butyl titanate with dibutyl ester of methyl-phosphonic acid in a 1:1 ratio takes place with isolation of the dibutyl ester and formation of oligomers:

Card 1/4

L 65216-65

ACCESSION NR: AP5011918



The authors studied the effect of temperature on the rate of polycondensation. The rate of the reaction was monitored by checking the amount of isolated dibutyl ester. It was found that an increase in temperature increases the completeness and speed of the reaction as well as the oligomer yield. An increase in the duration of isothermal holding at 200°C during the reaction increases the completeness of the reaction and the titanium content in the reaction mixture. However, the relative viscosity of the oligomer solution during polycondensation increases very little (from 1.11 to 1.56). The oligomer prepared by condensation at 200°C for 50 hours with subsequent removal of volatile products at 200°C and 1-0.1 mm Hg is a resinous dark yellow substance with a molecular weight of 4000 which is quite solu-

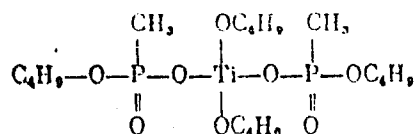
Card 2/4

L 65216-05

ACCESSION NR: AP5011918

3

ble in alcohols, aromatic hydrocarbons and petroleum ether. The oligomer is easily hydrolyzed with the isolation of butyl alcohol and the formation of an insoluble product. This polymer is deformed at 100°C, but does not flow even at 400°C. Condensation of *n*-tetrabutyl titanate with dibutyl ester of methyl-phosphonic acid in a 1:2 ratio takes place with the formation of a monomer product:



However, reaction of these same initial components in a 2:1 ratio takes place according to scheme (A) with the formation of a polymer product and the excess (1 mol) *n*-tetrabutyl titanate is returned from the reaction. Ultimate analysis and examination of the properties of this polymer product indicate that it is close in structure to the product formed from an initial component ratio of 1:1. The experimental work is described in detail. Orig. art. has: 4 figures, 2 formulas, 2 tables.

Card 3/4

L 65216-65

ACCESSION NR: AP5011918

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR
(Institute of Hetero-organic Compounds, Academy of Sciences SSSR), 54

SUBMITTED: 20Oct64

ENCL: 00

SUB CODE: GC, OC

NO REF SOV: 001

OTHER: 000

Card 4/4

L 62696-65 ENT(m)/EPF(c)/ENP(j)/T RM

ACCESSION NR: AP5014073

UR/0363/65/001/004/0460/0463

541.6:543.422.4

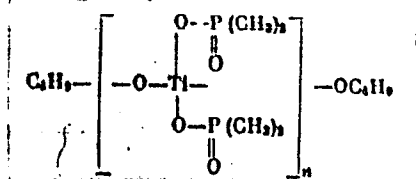
AUTHOR: ^{44,55}Andrianov, K. A.; ^{44,55}Gashnikova, N. P.; ^{44,55}Kuznetsova, I. K. ²⁵
²²
^B

TITLE: Polymers with inorganic molecular chains. Infrared spectra of poly-phosphonyltitanoxanes ^{7,44,55}

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 4, 1965, 460-463

TOPIC TAGS: infrared spectrum, titanium containing polymer, inorganic polymer, titanium compound, phosphorus compound

ABSTRACT: Infrared absorption spectra of polydiphosphonyltitanoxanes of various degrees of polymerization were studied. Polymers having the general formula



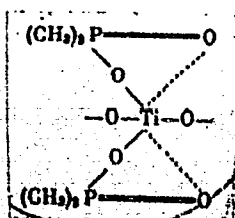
Card 1/3

L 62696-65

ACCESSION NR: AP5014073

0

were prepared by condensation of dimethylphosphinic acid with n-tetrabutyl titanate, followed by hydrolysis. A similarity in the spectra of the polymers was established in regard to the positions and number of bands in the region of stretching and bending vibrations of the CH_2 and CH_3 groups and stretching vibrations of the $\text{P}=\text{O}$ and $\text{P}-\text{O}$ groups, and also in the $400-800\text{ cm}^{-1}$ region, in which for all polymers only two bands, 760 and $450-500\text{ cm}^{-1}$, were observed (in contrast to bisdimethylphosphonyldibutoxytitanium, which in this region has three bands: 760 cm^{-1} , $618-620\text{ cm}^{-1}$, and $450-500\text{ cm}^{-1}$). The similarity in the spectra indicates a similarity in the molecular chains forming the polymers. A lowering of the stretching vibration frequency of $\text{P}=\text{O}$ was observed in the spectra of bisdimethylphosphonyldibutoxytitanium and polybisdimethylphosphonyltitanoxanes; it is attributed to the intramolecular interaction of $\text{P}=\text{O}$ with the titanium atom, as follows:



Card 2/3

L 62696-65

ACCESSION NR: AP5014073

3

Orig. art. has: 2 figures, 2 formulas and 1 table.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR
Institute of Organometallic Compounds, Academy of Sciences SSSR) 44.55

SUBMITTED: 22Dec64

ENCL: 00

SUB CODE: OP, OC

NO REF SOV: 003

OTHER: 013

Card

3/3

ANDRIANOV, K.P.; YEMEL'YANOV, V.N.

Three dimensional polycondensation. Plast. massy no.2:22-26 '65.
(MIRA 18s7)

ANDRIANOV, K.A.; KUZNETSOVA, I.K.

Reactions of formation of dimethylphosphonyltitanoxane oligomers.
Izv. AN SSSR. Ser. khim. no.6:945-949 '65.

(MIRA 18:6)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

L 60045-65 EWT(m)/LIT(c)/ENI(J) P-4/PT-4 JAJ/AM
 ACCESSION NR: AP5018036 UR/0191/65/000/007/0023/0026
 678.84

22

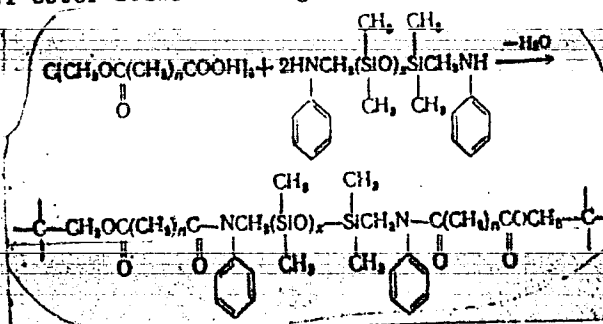
AUTHOR: Andrianov, K. A.; Yemel'yanov, V. N.; Raygorodskiy, I. M.

TITLE: Three-dimensional condensation of silicon-containing diamines with tetrafunctional ester acids

SOURCE: *Plasticheskiye massy*, no. 7, 1965, 23-26

TOPIC TAGS: organosilicon compound, ester acid, condensation reaction, polyamide, diamine

ABSTRACT: The article presents the results of a study of three-dimensional condensation of tetrafunctional ester acids with organosilicon diamines. The reactions were as follows:



Card 1/2

L 60045-65

ACCESSION NR: AP5018036

The synthesis of such silicon-containing polyester amides having a space-lattice structure was studied by condensing pentaerythritol tetrabacate, pentaerythritol tetraadipate, and pentaerythritol tetrasuccinate with bis(phenylaminomethyl)tetramethyldisiloxane and bis(phenylaminomethyl)hexadecamethyloctasiloane. It was found that the rate of polycondensation of the tetramethyldisiloxane with the tetrafunctional ester acids up to the gel point of the polymers and also after the start of gelling decreases with increasing distance between the carboxyl groups of the tetrafunctional ester acids. Condensation of adipic acid with bis(phenylaminomethyl)tetramethyldisiloxane produced linear polyamides. The reaction, carried out at 160C, is not accompanied by degradation of the components. The new compounds α , ω -bis(chloromethyl)hexadecamethyloctasiloane and α , ω -bis(phenylaminomethyl)hexadecamethyloctasiloane were synthesized. Condensation of the latter compound with tetrafunctional ester acids at 160C occurs in a heterogeneous medium and yields inhomogeneous products forming fibers. Orig. art. has: 4 figures, 3 formulas and 1 table.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: 0C

NO REF SOV: 004

OTHER: 002

Card 2/2

ANDRIANOV, K.A.; YEMEL'YANOV, V.N.

Three-dimensional condensation of silicon-containing alcohols
with tetrafunctional acid esters. Vysokom. soed. 7 no.3:517-
522 Mr '65. (MIRA 18:7)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

ANDRIANOV, K.A.; GOLUBKOV, G.Ye.; YELINEK, V.I.; KURASHEVA, N.A.;
MANUCHAROVA, I.F.; LITVINOVA, L.F.; ARTEM'YEV, B.K.

Synthesis and properties of polytitanodimethylsiloxanes.
Vysokom. soed. 7 no.4:680-687 Ap '65.

X-ray diffraction study of polytitanodimethylsiloxanes. Ibid.:
688-695 (MIRA 18:b)

1. Institut elementoorganicheskikh soyedineniy AN SSSR, Institut
obshchey i neorganicheskoy khimii imeni Kurnakova i Vsesoyuznyy
elektrotekhnicheskii institut imeni Lenina.

L 62479-05 ENT(m)/EPT(c)/ENT(j)/T RM

ACCESSION NR: APS020976

UR 0190/55/007/008/1477/1477

AUTHOR: Andrianov, K. A.; Kurakov, G. A.; Kostentseva, P. F.; Myagkov, V. A.; Avilov, V. A.

TITLE: Polymerization of cyclic phenylsilsesquioxanes

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 8, 1965, 1477

TOPIC TAGS: organosilicon polymer, silicone, phenylsilsesquioxane

ABSTRACT: High-molecular-weight, benzene-soluble polymers having a glass transition temperature of above 300C have been prepared from the cyclic phenylsilsesquioxane octamer ($C_6H_5SiO_{1.5}$)₈. It is noted that previous attempts at polymerizing the octamer were unsuccessful. The polymerization was carried out in two steps: first, in a high-boiling solvent (preferably, dimethylformamide) in the presence of an alkali to complete dissolution of the starting material, and then without solvent at 250—270C. [SM]

ASSOCIATION: none

Card 1/2

L 62479-65

ACCESSION NR: AP5020976

SUBMITTED: 01Apr65

NO REF SOV: 000

ENCL: 00

OTHER: 002

SUB CODE: 00C, G0

ATD PRESS: 4072

Card

2/2

ANDRIANOV, K.A.; MANEVICH, I.Ya.; BUSLAYEV, Yu.A.; MATROSOV, Ye.I.

Acid salts of methylphosphinic acid. Zhur. neorg. khim. 10
no.3:596-600 Mr '65. (MIRA 18:7)

1. Institut elementoorganicheskikh soyedineniy AN SSSR i
Institut obshchey i neorganicheskoy khimii imeni N.S.
Kurnakova AN SSSR.

ANDRIANOV, K.A., akademik; YEDEL'YANOV, V.N.; SUKHAREVA, L.A.; SMIRNOVA, Yu.P.;
ZUBOV, P.I.

Synthesis and physicomechanical properties of films of polymers
of regular structure. Dokl. AN SSSR 161 no.1:99-102 Mr 65.
(MIRA 18:3)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

ANDRIANOV, K.A., akademik; PAKHOMOV, V.I.; GEL'FERINA, V.M.

Disproportionation reaction used as a new method for synthesizing
organosilicon polymers. Synthesis of polyphenylenesilanes. Dokl.
AN SSSR 162 no.1:79-81 My '65. (MIRA 18:5)

1. Nauchno-issledovatel'skiy institut plasticheskikh mass.

ZHDANOV, A.A.; ANDRIANOV, K.A., akademik; ODINETS, V.A.; KARPOVA, I.V.

Synthesis and polymerization of cyclotetrasiloxanes containing
heterocyclic radicals with a silicon atom. Dokl. AN SSSR 162
no.2:335-338 My '65. (MIRA 18:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

ANDRIANOV, K.A., akademik; KOLEGNIKOV, G.S.; RODIONOVA, Ye.F.; LUK'YANOVA,
G.M.; PERTSOVA, N.V.

Thermal degradation of the polymers of vinylphosphinic acid esters.
Dokl. AN SSSR 163 no.1:97-99 J1 '65. (MIRA 18:7)

1. Institut elementoorganicheskikh soedineniy AN SSSR i Moskovskiy
khimiko-tekhnologicheskii institut im. D.I.Mendeleyeva.

ANDRIANOV, N.A., akademik; FEDIN, E.I.; KOTRELEV, G.V.; GORENAYA, I.V.

High-resolution proton magnetic resonance of organocyclosilazanes.
Dokl. AN SSSR 163 no.4:877-879 Ag '65.

(MIRA 18:8)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

L 60047-65 EWT(m)/EPF(c)/ENP(j)/T Pc-4/Pr-4 JAJ/RM
 ACCESSION NR: AP5017960 UR/0062/65/000/006/1022/1025
 542.91

AUTHOR: Andrianov, K. A.; Tsomaya, N. I.; Khananashvili, L. M.

TITLE: Synthesis of glycerol derivatives of oligomers with terminal functional groups

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 6, 1965, 1022-1025

TOPIC TAGS: glycerol, glycol, hexamethylenediamine, oligomer, adipic acid, sebacic acid

ABSTRACT: The development of methods for preparing polymers via oligomers involves the development of a synthesis of oligomers with terminal reactive groups. The article presents data on the synthesis of esters from glycerol and various dibasic acids, as well as data on the synthesis of oligomers from the glycerides of dibasic acids and hexamethylenediamine or a glycol. A study of the reaction between glycerol and dibasic acids showed that the reaction must be carried out in the presence of a large excess of acid to permit the formation of tribasic glycerolacids. The reaction follows the equation

Card

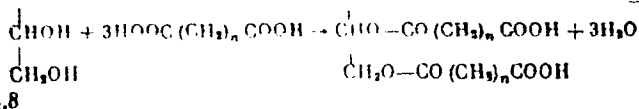
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CH_2OH

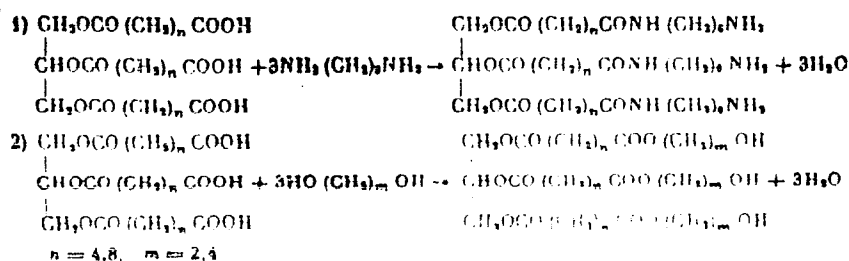
$\text{CH}_2\text{O}-\text{CO}(\text{C}_{17}\text{H}_{35})_n\text{COOH}$

L 60047-65

ACCESSION NR: AP5017960



only if the molar ratio of glycerol to acid is 1:5, so that no polymers are formed. Esters of adipic and sebacic acid were thus obtained and identified. The oligomers were synthesized by condensing tribasic glycerioacids with hexamethylenediamine and glycols. It was found that also in this case, when the ratio of glycerioacids to the other component is 1:5, the reaction proceeds with the formation of oligomers as follows:



Card 2/3

L 60047-65

ACCESSION NR: AP5017960

These oligomers were separated by removing excess hexamethylenediamine or glycol by extraction with water. The properties of the synthesized oligomers are given, and the experimental procedure followed for each compound is described. Orig. art. has: 2 tables and 3 formulas.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow Institute of Fine Chemical Technology)

SUBMITTED: 20May63

ENCL: 00

SUB CODE: 00

NO REF SOV: 000

OTHER: 000

Card

3/3

L 60953-65 E/T(m)/EPF(c)/EWP(j)/T/EWA(c) Pc-L/Pr-L/Ps-L RPL WW/JW/RM

ACCESSION NR: AP5018911

UR/0363/65/001/006/0825/0829
541.64

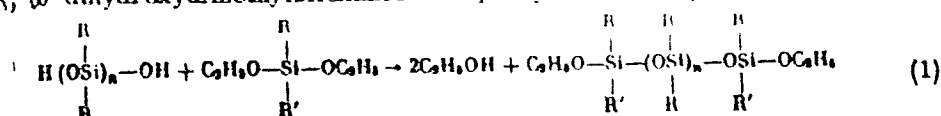
AUTHOR: Andrianov, K. A. ; Yermakova, M. N. 55

TITLE: Polymers with inorganic molecular chains - polyboromethylphenylaminomethyl-
siloxanes 55

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 6, 1965, 825-829

TOPIC TAGS: boron organic compound, polysiloxane, silicon organic polymer

ABSTRACT: In a study of the formation of polyborodimethylsiloxane oligomers with a branched structure, an attempt was made to raise the hydrolytic stability of these oligomers by introducing into the inorganic chain siloxane links surrounded by organic radicals having donor properties. To this end, use was made of the phenylaminomethylmethyloxane group, which was introduced into the molecules in small amounts by condensation of Δ , ω -dihydroxydimethylsiloxanes with phenylaminomethylmethyldiethoxysilane:

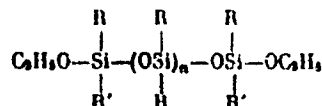


Card 1/3

L 60953-65

ACCESSION NR: AP5018911

where $R = CH_3$ and $R' = -CH_2NHC_6H_5$. The reaction, associated with a quantitative evolution of ethyl alcohol, was used to control both the number of methylphenylamino-methylsiloxane groups and their position relative to the siloxane bond. The reaction of polycondensation of α, ω -dihydroxydimethylsiloxanes with phenylaminomethyldiethoxy-silane was studied with oligomers of various degrees of polymerization. Oligomers of the general formula



(A)
were obtained, where $R = CH_3$ and $R' = CH_2NHC_6H_5$, with functional ethoxy groups at the ends of the inorganic chain of molecules, and $n = 14, 25, 46, 74$, and 188. The properties of these oligomers were determined. Branched borophenylaminomethylmethylsiloxanes with a regular distribution of boron in the inorganic chain were prepared by condensing the synthesized oligomers with boric acid. The kinetics of the cross-linking reaction of the polymer obtained from the various oligomers were studied. The rate constant of this reaction decreases with the degree of polymerization of the oligomer.

Cord 2/3

L 60953-65

ACCESSION NO. AP5018911 2

Orig. art. has: 3 figures, 2 tables, and 3 formulas.

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR (In-
stitute of Organometallic Compounds, Academy of Sciences, SSSR) 55

SUBMITTED: 17Feb65

ENCL: 00

SUB CODE: OC, IC

NO REF SOV: 002

OTHER: 001

dm
Card 3/3

L 51393-65 ENT(m)/EPF(m)/EWP(j)/I Pc-4/Pr-4 RM
ACCESSION NR: AP5011249

UR/0190/65/007/004/0680/0687

AUTHORS: Andrianov, K. A.; Golubkov, G. Ye.; Yelinek, V. I.; Kuraheva, N. A.;
Manucharova, I. F.; Litvinova, L. F.; Artem'yev, B. K.

TITLE: Synthesis and properties of polytitanodimethylsiloxanes

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 4, 1965, 680-687

TOPIC TAGS: organic synthesis, thermographic analysis, glass transition temperature, polycondensation

ABSTRACT: The authors synthesized titanodimethylsiloxane oligomers of the general
formula $\text{Ti}(\text{OSi}(\text{CH}_3)_2)_n\text{OH}$, in which n may equal 9, 18, 25, 34, 42, 52, 80, or 104. Poly-
condensation was carried out at 200°C. Thermographic analyses were made of the
titanodimethylsiloxane oligomers and polymers, and the heat of fusion of the
crystalline phase was determined; these data are tabulated. Electrical studies
show that an increase in content of the hydroxyl group in the titanodimethylsiloxane
oligomers leads to an increase in rigidity, a retardation in crystallization, and an
increase in polarizability and dielectric loss. It is concluded that the relaxation

Card 1/2

L 51393-65

ACCESSION NR: AP5011249

reaction of the compounds in an electric field is determined by the presence of the amorphous phase. The time of relaxation was found to be independent of the length of the polydimethylsiloxane branches. The glass point for the studied compounds was found to lie within the range from -120 to -190°C. Orig. art. has 3 figures and tables.

ASSOCIATION: Institut elementoorganicheskikh soedineniy AN SSSR (Institute of Hetero-Organic Compounds, AN SSSR); Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova (Institute of General and Inorganic Chemistry); Vsesoyuznyy elektrotekhnicheskii institut im. V. I. Lenina (All-Union Electrical Engineering Institute)

SUBMITTED: 27Jun64

ENCL: 00

SUB CODE: 00, MT:

NO REF SOV: 006

OTHER: 000

JO
Card 2/2

L 51394-65 EWT(m)/EPF(c)/EWF(j)/T Pc-4/1T-4 RM

ACCESSION NR: AP5011250

UR/0190/65/007/004/0688/0695

AUTHORS: Andrianov, K. A.; Golubkov, G. Ye.; Yelinek, V. I.; Kurasheva, N. A.; Manucharova, I. P.; Litvinova, L. P.; Artem'yev, B. K.

TITLE: X-ray studies of polytitanodimethylsiloxanes

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 4, 1965, 688-695, and insert facing p. 688

TOPIC TAGS: x ray study, polymer, titanium compound, structure analysis

ABSTRACT: The structure of polytitanodimethylsiloxanes was studied by means of x-ray structure analysis at room temperature and at -120°C. The x-ray photographs were taken with CuK radiation ($\lambda = 1.54 \text{ \AA}$), and the interplanar distances were computed by the Bragg-Wulff formula. The data are tabulated. Results show that the oligomers and polymers are amorphous at room temperature. The structure is characterized by bundle packing of the dimethylsiloxane branches, identical to the packing of molecular chains in polymethylsiloxane. It was found that titanodimethylsiloxane oligomers with terminal hydroxyl groups for $n \geq 42$, polymers with $n \geq 36$, and oligomers with terminal trimethylsilane groups with $n \geq 23$ crystallize in approximately the same temperature range as polydimethylsiloxanes, and the structures of

Card 1/2

L 51394-65

ACCESSION NR: AP5011250

the crystalline phases are identical. Orig. art. has: 4 figures and 2 tables.

ASSOCIATION: Institut elementoorganicheskikh soedineniy AN SSSR (Institute of
Hetero-Organic Compounds, AN SSSR); Institut obshchey i neorganicheskikh khimii im.
N. S. Kurnakova (Institute of General and Inorganic Chemistry, Vsesoyuznyy
nauchnoissledovatel'skiy institut im. V. I. Lenina All-Union Electrical Engineering
Institute,

SUBMITTED: 27Jun64

ENCL: 00

SUB CODE: OC, OP

NO REF SOV: 002

OTHER: 000

Card

2/2

L 2267-66 EWT(m)/EPF(c)/EWP(j) RM

ACCESSION NR: AP5022223

UR/0191/65/000/009/0020/0022

678.842

AUTHOR: Andrianov, K. A.; Pakhomov, V. I.; Lapteva, N. Ye.

TITLE: Reactions of chloromethylsilanes and siloxanes with dihydric phenols

SOURCE: Plasticheskiye massy, no. 9, 1965, 20-22

TOPIC TAGS: organosilicon compound, resorcinol, hydroquinone, condensation reaction, silane esterification

ABSTRACT: The object of the work was to synthesize monomeric hydroxyphenoxy-methylsiloxanes and monomeric products with completely esterified phenol hydroxyls by the reaction of chloromethylalkoxysilanes and siloxanes with mono- and disodium derivatives of dihydric phenols. As a result of the reaction, the chlorine in the methyl radical was replaced by the residue of the dihydric phenol containing a free or esterified hydroxyl group. Reactions of bis(chloromethyl)tetramethyldisiloxane and chloromethyldimethylbutoxysilane with resorcinol, hydroquinone, or dihydroxydiphenylpropane (diane) were carried out in absolute butanol under nitrogen. The conditions and results of these reactions are tabulated. The silanols obtained were subjected to condensation reactions, and

Card 1/2

L 2267-66

ACCESSION NR: AP5022223

the transesterification of methylphenyldiethoxysilane and phenyltriethoxysilane was performed. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: OC

NO REF SOV: 001

OTHER: 003

Card

2/2

L 2168-66 EWT(m)/EPF(c)/EWP(j) RM

ACCESSION NR: AP5024501

UR/0191/65/000/010/0015/0016 41

678.845

AUTHOR: Semenova, Ye. A.; Makovskaya, T. N.; Zhinkin, D. Ya.; Andrianov, K. A. 44.55

TITLE: Rearrangements of methylcyclosilazanes 1, 44.55

SOURCE: Plasticheskiye massy, no. 10, 1965, 15-16

TOPIC TAGS: organosilicon compound, chemical reaction, chemical equilibrium, recombination reaction, chemical reaction kinetics, catalytic polymerization, catalysis

ABSTRACT: The effect of electrophilic catalysts at different temperatures on the mutual rearrangements of methylcyclosilazanes was investigated to explain previously obtained data. The conversion of hexamethylcyclotrisilazane (A) and octamethylcyclotetrasilazane (B) by the action of 2% ammonium sulfate of 1% concentrated sulfuric acid was studied in the 25-245 C range. Mutual rearrangement of the two cyclosilazanes occurred, and at temperatures above 150 C polymethylsilazanes were formed. The latter polymers were viscous yellow liquids having a cyclo-linear structure. Ammonium sulfate was most active in the

Cord 1/2

L 2168-66

ACCESSION NR: AP5024501

ring-contracting reaction and promoted rearrangement only at temperatures above 100 C. The composition of the products obtained by action of sulfuric acid on A or B at a given temperature was about the same. Orig. art. has: 2 figures

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: OC, *gc*

NR REF SOV: 003

OTHER: 000

Card *dg*
2/2

ANDRIANOV, K.A.; KUZNETSOVA, I.K.; SMIRNOV, Yu.N.

Reaction of tetrabutyl titanate with methylphosphinic acid esters. Izv. AN SSSR. Neorg. mat. 1 no.3:289-293 Mr '65.

Reactions of n-tetrabutyl titanate with phosphinic acids.
Ibid.:301-306 (MIRA 18:6)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

ANDRIANOV, K.A.; KURASHEVA, N.A.; MANUCHAROVA, I.F.; MERLINER, Ye.M.

Polymers with inorganic chains of molecules --
polytitanodimethylsiloxanes. Izv. AN SSSR. Neorg. mat. 1
no.3:294-300 M- '65. (MIRA 18:6)

1. Institut elementoorganicheskikh soyedineniy AN SSSR i
Institut obshchey i neorganicheskoy khimii imeni Kurnakova
AN SSSR.

ANDRIANOV, E.A.; YERMAKOVA, M.N.

Polyboronmethylphenylaminomethylsiloxanes, polymers with
inorganic molecular chains. Izv. AN SSSR. Neorg. mat. 1
no.6:825-829 Je '65. (MIRA 18:8)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

TROFIMOVA, I.V.; ANDRIANO, S.I.; LUTINA, M.A.; RIL'BERG, S.A.

Synthesis of methylchlorosilane in a fluidized bed by means of vibration. Khim.prom. 43 no.6:468-470 3p '65.

(MIRA 18:8)

ANDRIANOV, K.A.; OVCHINNIKOV, V.A.; KHANANASHVILI, L.M.

Organosilicon heat carriers. Khim. prom. 41 no.8:570-572
Ag '65. (MIRA 18:9)

L 63137-65

1.10/ErP(c)/ErP(1)/1 10-01/1.4 14.1.64

ACCESSION NR: AP5016503

UR/0120/65/007/006/1000/1004
541.64

AUTHORS: Andrianov, K. A.⁴⁴; Lavygin, I. A.⁴⁴

32
30
B

TITLE: Formation of three-dimensional 8-hydroxyquinolinetitanopolydimethylsiloxane polymers

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 6, 1965, 1000-1004

TOPIC TAGS: siloxane, organosilicon compound, polymer, resin, oligomer, transition metal complex, reaction mechanism

ABSTRACT: The work was initiated to elucidate the mechanism of oligomer polymerization. The investigation is an extension of the work of K. A. Adrianov and A. A. Zhdanov (Izv. AN SSSR. Otd. khim. n., 1962 837). The oligomers studied had the general formula $(C_9H_6NO)Ti \cdot O(Si(CH_3)_2O)_nH_3(I)$. The polymerization of these substances with themselves and with 8-hydroxyquinolinetributoxytitanium (II) was investigated at 200C in vacuum. It was found that polymerization of I and II was of first and second order, respectively, and that the rate of polymerization reaction decreased with increase in the degree of polymerization of the initial oligomer. The specific viscosity, yield of gel fraction, and

Card 1/2

L 60137-65

ACCESSION NR: AP5016503

thermodynamic properties for the systems studied are given as functions of condensation time. A reaction mechanism is proposed. Orig. art. has: 1 table, 5 graphs, and 2 illustrations.

ASSOCIATION: Institut elementoorganicheskikh soedineniy AN SSSR (Institute for Hetero-Organic Compounds, AN SSSR)

SUBMITTED: 07Jul64

ENCL: 00

SUB CODE: 00

NO REF SOV: 005

OTHER: 000

Card 2/2

L 1128-66 EWT(m)/EPF(c)/EWP(j) RPL WW/RM

ACCESSION NR: AP5022931

UR/0062/65/000/008/1396/1402

546.287

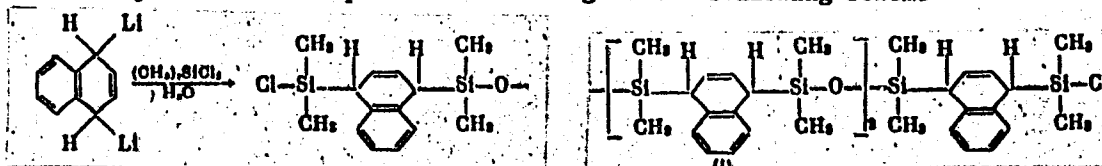
AUTHOR: Tkeshelashvili, R. Sh.; Andrianov, K. A.; Nogaydeli, A. I.

TITLE: Reaction of dimethyl- and phenylmethyldichlorosilanes with 1,4-dilithium-1,4-dihydronaphthalene

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 8, 1965, 1396-1402

TOPIC TAGS: dimethyldichlorosilane, condensation reaction

ABSTRACT: The reaction of dimethyl- and phenylmethylchlorosilanes with dilithium derivatives of naphthane was studied to determine its usefulness in the synthesis of oligomers. The condensation reaction of 1,4-dilithium-1,4-dihydronaphthalene with dimethylchlorosilane proceeds according to the following scheme

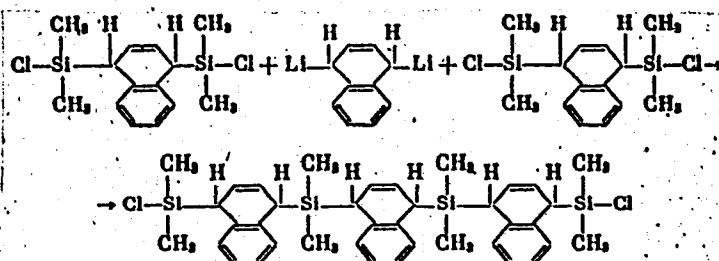


Card 1/3

L 1128-66

ACCESSION NR: AP5022931

The reaction product is a tetramer with a boiling temperature of 218-220°C (at 1 mm Hg). In the absence of moisture this reaction proceeds according to



This scheme was followed also in the case of condensation with phenylmethyldichlorosilane. In this case the products were: a dimer boiling at 200-205°C (1 mm Hg) and a tetramer boiling at 245-250°C (1 mm Hg). Boiling temperatures at reduced pressure, refractive indices, and molecular weights (elemental analysis) were determined for all reaction products. In order to confirm the structure, the reaction products were hydrolyzed to the corresponding dihydroxy-derivatives with various degrees of

Card 2/3

L 1128-66

ACCESSION NR: AP5022931

polymerization and transformed into other derivatives. Orig. art. has: 2 tables. ³

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR
(Institute of Elemental Organic Compounds, Academy of Sciences, SSSR) ^{44, 55}

SUBMITTED: 09Jul64

ENCL: 00

SUB CODE: GC, OC

NO REF SOV: 001

OTHER: 000

Card 3/3

L 00752-66 EPA(s)-2/DWT(m)/EPF(c)/ENP(j)/T RM

ACCESSION NR: AP5020974

UR/0190/65/007/008/1456/1462

AUTHOR: Andrianov, K. A.; Fromberg, M. B.; Belkina, T. M.

TITLE: Synthesis of trifunctional crosslike ester acids and of polyesters having a regular lattice structure

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 8, 1965, 1456-1462

TOPIC TAGS: ester, polyester plastic, polycondensation, adipic acid, dielectric loss, synthesis, polymer structure

ABSTRACT: Trifunctional ester acids were synthesized by reacting trimethylol-ethane or trimethylolpropane with a two-fold excess of adipic, azelaic or sebacic acid. Their properties were determined. The kinetics of the polycondensation of trimethylol-ethane and adipic acid in 1:1.5 and 1:6 ratios were investigated. In the first case the reaction is of the second order and in the case with excess adipic acid the reaction is first order. The reaction rate constants and the energy of activation of these polycondensations were calculated: $E = 20,600$ cal/mol

Card 1/2

Card 2/2

ANDRIANOV, K.A.; KURAKOV, G.A.; ~~SUSHEVISOVA~~, T.F.; MYAGKOV, V.A.; AVILOV, V.A.

Polymerization of cyclic phenylsilsesquioxanes. Vysokom. soed.
7 no.8:1477 Ag '65. (MIRA 18:9)

ANDRIANOV, K.A.; KURASHEVA, N.A.; AVILOV, V.A.

Condensation of α, ω -dihydroxydimethylsiloxanes with
tetrabutoxytitanium. Izv. AN SSSR Ser. khim. no. 9: 1616-
1619 '65. (MIRA 18:9)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

PETRASHEO, Ya.K.; FROMBERG, M.B.; ANDRIANOV, K.A.

Synthesis of ramified oligomers with the central silicon atom
and hydroxyl groups at the ends of branching. Izv. AN SSSR.
Ser. khim. no.9:1709-1711 '65. (MIRA 18:9)

1. Elektrotekhnicheskii institut im. V.I. Lenina.

L 2929-66 EWT(m)/EPF(c)/EWP(1)/T RM

ACCESSION NR: AP5022605

UR/0190/65/007/009/1585/1591
678.01:53+678.84

AUTHORS: Andrianov, K. A.; Lavygin, I. A.

TITLE: The structure and properties of linear and branched polychelate titanodimethylsiloxanes

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 9, 1965, 1585-1591

TOPIC TAGS: linear polymer, branched polymer, dimethylsiloxane, titanium

ABSTRACT: The physicochemical properties of two polymerhomologous series of linear and branched polychelate titanodimethylsiloxanes of the general formulas $(C_9H_6NO)_2Ti-[\bar{O}(Si(CH_3)_2O)_nSi(CH_3)_3]_2$ and $(C_9H_6NO)_2Ti-[\bar{O}(Si(CH_3)_2O)_nSi(CH_3)_3]_3$ were investigated and their properties were compared with those of linear polydimethylsiloxanes. It was found that the introduction of titanium atoms surrounded by 8-hydroxyquinoline grouping into the siloxane chain increases the molecular interaction and influences the physicochemical properties of the investigated compounds. Specific gravity and activation energy were found to vary with temperature in the range of 20-70°C. A linear relationship between specific weight and temperature was noted for both compounds. It was demonstrated that the

Card 1/2

L 2929-66

ACCESSION NR: AP5022605

specific gravity, activation energy of viscous flow, and the refractive index for polychelate titanosiloxanes decrease with increasing molecular weight (an inverse relationship is true for polydimethylsiloxanes). The free volume of polychelate titanosiloxanes in the range of lower molecular weights is lower than that of polydimethyl siloxanes. The various relationships are plotted and interpreted, and the physicommechanical constants of polychelate titanodimethylsiloxanes and polydimethylsiloxanes are tabulated. The viscosity of polychelate titanodimethylsiloxanes and polydimethyl siloxanes is shown to increase with increasing molecular weight. For molecular weights up to 16000 the viscosity of polychelate titanodimethylsiloxanes is higher than for polydimethylsiloxanes. With an increase in molecular weight the viscosity of branched polychelate titanodimethylsiloxanes becomes lower than for linear ones and for dimethyl siloxanes. Orig. art. has: 6 figures and 1 table.

ASSOCIATION: Institut elementoorganicheskikh sovedineniy, AN SSSR (Institute of Organometallic Compounds, AN SSSR)

SUBMITTED: 19Oct64

ENCL: 00

SUB CODE: CC, CC

NO REF SOV: 002

OTHER: 008

Card 2/2 PC

L 1255-66 EPF(c)/EWP(j)/EWT(m)/T RM

ACCESSION NR: AP5021674

UR/0080/65/038/008/1887/1889

44755 4455 547.211'222'245 4455 40
AUTHOR: Lobusevich, N. P.; Trofimova, I. V.; Andrianov, K. A.; Golubtsov, S. A.

TITLE: Effect of methyl chloride and vinyl chloride on the synthesis of methyl-chlorosilanes 4455

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 8, 1965, 1887-1889

TOPIC TAGS: chloride, silane, methylene chloride, vinyl chloride, catalysis, copper, silicon, aluminum, antimony

ABSTRACT: Methyl chloride obtained by chlorination of natural gas contains up to 1.7 vol. % methylene chloride and 0.2-3.0% vinyl chloride. It is known that at temperatures of 300-350C methylene chloride reacts with silicon copper catalysts with formation of hexachlorodisilane methane and also of hydrogen containing chlorosilanes. Under the conditions of the reaction of methyl chloride with silicon-copper catalysts, the methylene chloride can react with the silicon with information of analogous compounds, and can undergo decomposition with the formation of carbon, which deactivates the catalyst. Carbonization of the catalyst was observed even after short term synthesis, with the introduction of
Card 1/2

L 1255-66

ACCESSION NR: AP5021674

6-7% of methylene chloride into the methyl chloride. In experiments in a pressurized fluidized bed on an alloy promoted with antimony, an investigation was made of the effect of vinyl chloride, whose concentration in the mixture with methyl chloride was varied from 0.16 to 4.0 vol. %. No adverse effect on the process was observed at concentrations up to 0.2%. In the reaction of methyl chloride with an alloy of the composition Cu_3Si , vinyl chloride in concentrations higher than 0.16% sharply lowers overall activity and slightly lowers selective activity. For Cu_3Si alloys and mixtures of copper and silicon powders with addition of 0.5% aluminum, the introduction of more than 0.16% vinyl chloride causes a greater decrease in overall activity than for catalysts with an antimony additive. In this case, large amounts of still residues are formed (15-40%). In general, it is concluded that under the conditions of the synthesis, vinyl chloride reacts with silicon with the formation of vinyl trichlorosilane, ethyl dichlorosilane, and dimethyl vinyl chlorosilane, and that this inhibits the separation of dimethylchlorosilane from the mixture of methylchlorosilanes. Orig. art. has: 3 figures and 1 table

SUBMITTED: 17Jun63

ENCL: 00

SUB CODE: MM, GC

NR REF SOV: 003

OTHER: 002

Card 2/2 KC

ACC NR: AP5027692

SOURCE CODE: UR/0062/65/000/010/1895/1897

AUTHOR: Andrianov, K. A.; Lavygin, I. A.

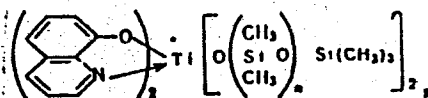
ORG: Institute of Heteroorganic Compounds, Academy of Sciences, SSSR (Institut elementoorganicheskikh soyedineniy, Akademiya nauk SSSR)

TITLE: The reaction of bis-(8-hydroxyquinoline)dibutoxytitanium with α -hydroxy- ω -(trimethylsilyl)dimethylsiloxanes

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 10, 1965, 1895-1897

TOPIC TAGS: titanium compound, titanium organic compound, siloxane, titanasiloxane, 8 hydroxyquinoline

ABSTRACT: The condensation of bis(8-hydroxyquinolyl)dibutoxytitanium with α -hydroxy- ω -(trimethylsilyl)dimethylsiloxane resulted in the formation of linear oligomers with the structure:



where n was 15, 60, 98, 170, or 350. The condensation was performed in benzene solution at 80C for 3-4 hours. Butanol was split off. The oligomers obtained were vis-

Card 1/2

UDC: 542.952+546.821

09010027

L 4535-66

ACC NR: AP5027692

cous liquids. A red color was noted when $n = 15$ and 60. Orig. art. has: 1 formula
and 3 tables. [BN]

SUB CODE: OC, GC/ SUBM DATE: 17Feb65/ ORIG REF: 004/ OTH REF: 000/ ATD PRESS:
4/30

OC

Card 2/2

0028

L 00265-66 EPF(o)/EWP(j)/EWT(m)/T RM

ACCESSION NR: AP5013444

UR/0020/65/162/001/0079/0081

AUTHOR: Andrianov, K. A. (Academician); Pakhomov, V. I.; Gel'perina, V. M.

TITLE: Disproportion reaction--a new method of synthesis¹ of silicoorganic polymers. Synthesis of polyphenylenesilanes

SOURCE: AN SSSR. Doklady, v. 162, no. 1, 1965, 79-81

TOPIC TAGS: disproportion reaction, silicoorganic polymer, synthesis, polyphenylenesilane

ABSTRACT: Base catalyzed disproportionation of several bis-(dimethylethoxysilyl) benzenes is studied in an attempt to find new routes to the synthesis of polyphenylenesilanes. The ionic mechanism of this reaction is:

Card 1/4